Decision **PROPOSED DECISION OF COMMISSIONER ALICE REYNOLDS**
(Mailed 8/30/2023)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to consider policy and implementation refinements to the Energy Storage Procurement Framework and Design Program (D.13-10-040, D.14-10-045) and related Action Plan of the California Energy Storage Roadmap.	Rulemaking 15-03-011

DECISION ADOPTING STATION POWER RULES FOR HYBRID AND CO-LOCATED RESOURCES

TABLE OF CONTENTS

Title **Page**

DECISION ADOPTING STATION POWER RULES FOR HYBRID AND CO-LOCATED RESOURCES

Summary

Hybrid and co-located resources have been proliferating in recent years to support grid reliability and our greenhouse gas reduction goals. Hybrid and co-located resources often take the form of battery storage paired with a renewable resource like solar generation. This decision establishes rules for station power at hybrid and co-located resources. Station power is energy consumed by generating resources that is used for purposes other than supporting resale of energy to wholesale markets, such as information technology and communications, lighting, ventilation, and safety.

This decision determines that station power rules that were previously established for stand-alone storage are now applicable to hybrid resources with on-site self-supply for charging storage device for later resale, except that the storage may discharge to cover station power loads when the resource is otherwise idle. No physical or financial assurance to prevent grid charging is required but the Commission directs the investor-owned utilities (IOUs) to monitor hybrid resources for inappropriate or unintentional grid charging through an annual report for two years.

This decision also determines that station power rules for stand-alone storage are applicable to hybrid resources with mixed self-supply and grid charging of a storage device for later resale in the near-term or until a more granular accounting system to distinguish the source of charging is developed. With respect to developing a more granular accounting system for hybrid resources, the IOUs are directed to meet and confer with other interested parties about feasibility of developing such a method and file an advice letter detailing a

development and implementation plan for the accounting system and the cost associated with it.

Last, this decision determines that station power rules for stand-alone storage are not applicable to co-located resources; netting to serve station power load is not permitted between two co-located resources. Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, are applicable to the individual storage resource in a set of co-located resources.

The petition to modify Decision 17-04-039 filed by the California Energy Storage Alliance is denied as moot.

Rulemaking 15-03-011 is closed.

1. Procedural History

The Order Instituting Rulemaking that initiated this proceeding was adopted by the Commission on March 26, 2015, to address the enactment and ongoing implementation of Assembly Bill (AB) 2514 (Skinner, 2010) and to continue to refine policies and program details as required or recommended by Decision (D.) 13-10-040 and D.14-10-045, which established the Energy Storage Procurement Framework and Program and approved the utilities' applications in implementing the Program. The Scoping Memo and Ruling of the Assigned Commissioner was issued on June 12, 2015. A revised scoping memo and ruling seeking comments on station power rules, among other subject matters, was issued on January 5, 2016.

This rulemaking resulted in D.16-01-032, *Decision on Track 1 issues*, and D.17-04-039, *Decision on Track 2 Energy Storage Issues* (including station power rules for storage). Subsequently, D.18-01-003, *Decision on Multiple-Use Application Issues*, closed the proceeding.

Rulemaking (R.) 15-03-011 was reopened on March 19, 2021, with the filing of a petition to modify D.17-04-039 submitted by the California Energy Storage Alliance (CESA). In its petition, CESA sought clarifications to the application of station power rules and treatment of hybrid and co-located energy storage resources. Responses to the Petition were filed on April 19, 2021, by the following parties: American Clean Power – California (ACP – California), California Independent System Operator Corporation (CAISO), Independent Energy Producers Association (IEP), Pacific Gas and Electric Company (PG&E), Public Advocates Office at the California Public Utilities Commission, San Diego Gas & Electric Company (SDG&E), Solar Energy Industries Association (SEIA), and Southern California Edison Company (SCE). On April 29, 2021, CESA filed a reply to the responses. On October 27, 2021, the Assigned Commissioner's Ruling directed the parties of this proceeding to file responses to a set of questions to better understand the concerns of the respondents and supplement the proceeding record. Opening and reply comments were filed on December 3 and December 17, 2021, respectively.

On June 13, 2022, the Assigned Commissioner's Amended Scoping Memo and Ruling (Amended Scoping Memo) was issued to expand the scope of this proceeding to consider the limited issue of station power rules applicable to hybrid and co-located energy storage resources and related matters. The Amended Scoping Memo also initiated a workshop process and directed a working group report.

Final Report on Technical Workshops to Consider Station Power Rules for Hybrid and Co-located Energy Storage Resources (WG Report) was filed on February 1, 2023. On February 14, 2023, comments were filed by the following parties: PG&E, SCE, and SDG&E (collectively, Joint investor-owned utilities (IOUs)); and IEP.

On February 21, 2023, reply comments were filed by the following parties: Joint IOUs, CESA, and AES Clean Energy Development, LLC (AES).

1.1. Submission Date

This matter was submitted on March 27, 2023, upon filing of AES's opposition to Joint IOU motion to strike the reply comments filed by AES.

2. Factual Background

D.17-04-039 and D.18-01-003 issued in this proceeding established rules on station power for stand-alone storage resources. Defining station power as energy that is used for purposes other than supporting resale of energy to wholesale markets, such as information technology and communications, lighting, ventilation, and safety, D.17-04-039 established rules for the following matters:[1]

- Distinguishing between station power that load serving entities (LSEs) provide and energy that is stored and resold to CAISO markets;
- Allowing stand-alone storage resources to self-provide their station power when the resource is actively charging or discharging;
- Netting station power against storage charging and discharging within 15-minute intervals.

D.17-04-039 directed the IOUs to "[c]onfirm that all energy used for purposes other than for supporting a resale of energy back into the wholesale markets is station power and inherently retail, subject to CPUC rules regarding netting of energy consumption."[2] Furthermore, D.17-04-039 directed the IOUs to negotiate measurement and metering arrangements in contracts with energy storage providers that adhere to the adopted station power rules. D.17-04-039

[1] D.17-04-039 at Ordering Paragraph (OP) at 8.

[2] D.17-04-039 at OP 8.

also provided an option for Commission staff to arbitrate contractual disputes between the IOUs and energy storage providers. D.17-04-039 deferred consideration of the impacts of specific metering configurations on different storage system designs to a future rulemaking on multiple-use applications (MUA).

In D.18-01-003, which addressed multiple-use applications, the Commission determined that LSEs and storage providers must continue to negotiate their desired metering configurations. The Commission also found that the IOUs had proposed reasonable provisions for recording station power and determined that no further decision-making was required.

More recently, D.20-06-031 issued in R.19-11-009 adopted definitions for hybrid and co-located resources, aligning the Commission's and the CAISO's definitions.[3] In D.20-06-031, a "hybrid resource" is defined as two or more resources (one of which is a storage project) located at a single point of interconnection with a single resource ID. "Co-located resources" are defined as two or more resources (one of which is a storage project) located at a single point of interconnection with two or more resource IDs.

3. Definitions

This decision considers the Working Group (WG) Report and comments on the report to determine applicability of station power rules for hybrid and co-located storage resources. For clarity and consistency, we will use the following naming conventions and definitions listed in the WG Report.[4]

1) *Hybrid Resource:* "A Mixed-fuel Resource with a single Resource ID at a single Point of Interconnection."

[3] D.20-06-031 at OP 12.

[4] *See* WG Report at 3-5 for a full list of the definitions and further details on these terms.

(California Independent System Operator (CAISO) Tariff, App. A)[5] For purposes of the Working Group Report, at least one of the Resources must be storage. The Resources that comprise a Hybrid Resource have the same Point of Interconnection, and the CAISO treats them as a single market resource with a single Resource ID. A Hybrid Resource submits a single set of bids and receives a single set of market dispatch instructions, has a single CAISO metering arrangement, and receives a single settlement statement from the CAISO. A Hybrid Resource has a single Scheduling Coordinator.

2) *Co-Located Resource:* "A *Generating* Unit with a unique Resource ID that is part of a Generating Facility with other Generating Units." (Source: CAISO Tariff, App. A)[6] For purposes of the Working Group Report, at least one of the Generating Units at the Generating Facility must be storage. Although Co-Located Resources have the same Point of Interconnection (may share the same substation, and in the case of DC-coupled resources, may share the same inverters), the CAISO treats them as separate market resources with separate Resource IDs. Each Co-Located Resource submits separate bids and receives separate CAISO market dispatch instructions, has separate CAISO metering arrangements, and is settled separately with the CAISO. Co-Located Resources may have distinct Scheduling Coordinators.

3) *Station Power:* "All energy used for purposes other than for supporting a *resale* of energy back into wholesale markets, as specified in Rule 2, is station power and inherently retail, subject to the rules regarding netting of energy consumption." Station Power for Storage includes, among other things energy used for "IT information technology and communications, lighting, ventilation, and safety." (Source: D.17-04-039)

[5] WG Report at 3.

[6] WG Report at 4.

4) *Permitted Netting / Self-Supply*: Under certain circumstances, generating *resources* are allowed to pay wholesale rates for their station power. Specifically, when the resource is generating an amount of power that exceeds its station load, the resource can subtract its station power load from its generation total (i.e., "net" its station power and generation), thereby both avoiding retail charges for its station power and reducing the amount of power it receives wholesale compensation for. Storage resources are also allowed to pay wholesale rates for their station power when they are charging for later resale, but only if the amount of charging exceeds the station power load.
5) *Wholesale Charging (of Storage Resource)*: All energy drawn from the grid to charge energy storage resources for later resale, and including energy associated with efficiency losses. Wholesale Charging energy should be subject to a wholesale tariff (i.e., the CAISO Tariff). Wholesale Charging includes the following: "charging energy, resistive losses, pumps (flow batteries and pumped hydro), power conversion system, transformer, battery management system, thermal regulation, and vacuum (for flywheels)."[7]

4. Issues Before the Commission

This decision determines the appropriate rules to govern the metering and billing arrangements of Station Power under the three scenarios identified in the WG Report. These scenarios are as follows:

1) Scenario One: Hybrid Resource with Only On-Site Self-Supply for Charging of Storage Device for Later Resale (Hybrid On-Site Self-Supply & Charging).
2) Scenario Two: Hybrid Resource with Mixed Self-Supply and Grid Charging of Storage Device for Later Resale (Hybrid Mixed Charging).
3) Scenario Three: Co-Located Resources.

[7] WG Report at 5.

For each scenario, this decision states the resolution to the issue, describes the proposal, briefly summarizes party comments, and explains how the Commission determines the issue.

5. Hybrid Resource with Only On-Site Self-Supply for Charging Storage Device for Later Resale (Scenario One)

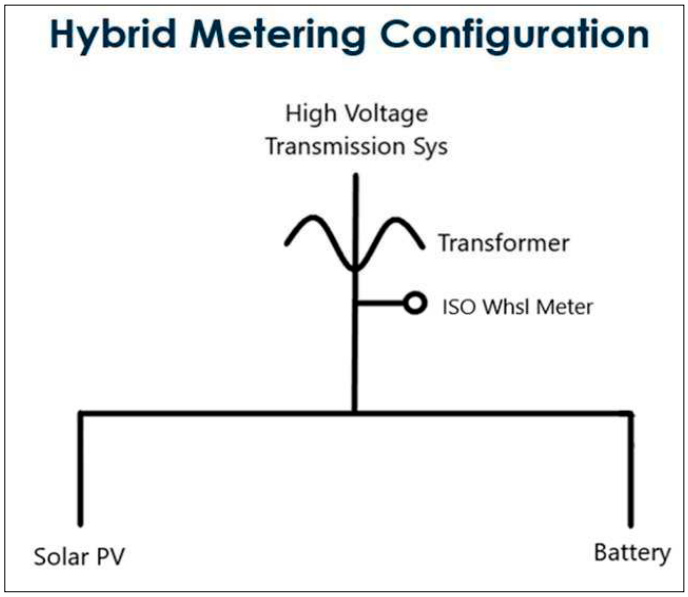
After considering the WG Report and party comments, the Commission finds that it is reasonable for storage resources in a hybrid configuration to use output from a generator behind the same point of interconnection to self-supply their station power load under Scenario One. That is, station power rules adopted in D.17-04-039 are applicable to hybrid resources configured as in Scenario One. Due to lack of data on the significance of risk of charging from the grid, as described below, the Commission does not require a physical or financial assurance to prevent grid charging but directs the IOUs to monitor hybrid resources for occurrences of inappropriate or unintentional grid charging and file an annual report via Tier 1 Advice Letter by December 31, starting in 2024, for two years. This filing should report, for each hybrid resource interconnected as a hybrid resource with on-site self-supply and charging in the IOUs' territory, the number and magnitude of incidences where they charged from the grid.

5.1. Description of Scenario One

As presented in WG Report, Scenario One consists of a storage device, a generating device, and a common Resource ID and CAISO settlement meter. All the devices act collectively as a single resource for wholesale market participation. In this scenario, the storage device is not engaged in wholesale charging with power deemed to be withdrawn from the CAISO-controlled grid. Instead, the storage device and the generating device may only serve their

station power loads with power from on-site devices (self-supply) or power deemed to be withdrawn from CAISO-controlled grid (purchased at retail).[8]

Figure 1. Hybrid Resources Configuration[9]



5.2. Party Positions on Scenario One

CESA, and IEP, and the Joint IOUs agree that permitted netting is allowed for hybrid resources under Scenario One. These parties agree that a system as shown in Figure 1 can "self-supply" its station power load with energy from the on-site solar system or the battery system, as long as the power in the battery system flows from the on-site solar system. Any power flowing inward onto the site of hybrid resource would be considered as energy being sold at retail to station power loads subject to the applicable retail tariff.

Parties agree that Scenario One is a simple configuration and explain that "any power being read by the CAISO settlement meter, as flowing inbound,

[8] WG Report at 7-8.

[9] WG Report at 8.

which would also be measured by the IOU retail meter, should be retail energy. The primary IOU retail meter is electrically located at the same place as the CAISO settlement meter and effectively measures the same flows. In this scenario, the IOU retail meter acts as a backup in case the CAISO settlement meter is unavailable."[10] Nevertheless, the Joint IOUs assert that there is a reliability risk when a hybrid resource that intends to engage in on-site charging may unexpectedly and/or unintentionally engage in charging from the grid and recommend that the Commission impose a physical or financial deterrent to prevent such occurrences.[11] Parties disagree on the need for physical or financial assurance agreements to prevent or financially discourage wholesale charging from the CAISO-controlled grid.[12]

Physical Agreements would require equipment or controls that would prevent the storage device from receiving power deemed to be from the CAISO-controlled grid while the site is being allowed to receive an amount of power for station power.[13] CESA and IEP argue that physical mechanisms would be impractical and prohibitively expensive.

Under a financial agreement, a hybrid resource would pay retail rates for any inbound power metered at the site, given that wholesale charging is prohibited. That is, any wholesale power delivered and stored would remain

[10] WG Report at 8-9.

[11] Joint IOUs Opening Comments, February 14, 2023, at 6-7.

[12] SCE's current Standby Form 14-749 is used as a model for both physical and financial assurance agreements. It is designed for standby customers who install equipment to prevent their on-site load from requiring backup retail service from SCE during an outage. *See* WG Report at 9.

[13] WG Report at 9.

wholesale power, but the hybrid resource would agree to pay at the retail level as a financial penalty.[14]

CESA and IEP argue that there is no need for a financial assurance agreement because existing contracts provide strong financial incentives not to charge from the grid. Those incentives include eligibility for the Federal Investment Tax Credit and the California Solar Property Tax, provisions in some Power Purchase Agreements (PPAs), provisions in some Generator Interconnection Agreements, PURPA Standard Offer Contracts and Renewable Market Adjusting Tariff PPA.[15] If a hybrid resource operator can demonstrate that the hybrid resource will not charge from the grid due to one or more of the contractual provisions aforementioned, CESA and IEP do not see a need for an additional assurance. IOUs disagree and state that such incentives may be inapplicable, non-existent, or irrelevant.[16]

Even though CESA and IEP oppose physical and financial assurance agreements, between the two, they would prefer a financial assurance agreement.

5.3. Discussion of Scenario One

After considering the WG Report and party comments, the Commission concludes that permitted netting should be allowed for hybrid resources under Scenario One. The Commission agrees with the parties that this is a simple configuration and the station power rules adopted in D.17-09-046 should be applicable to the resources in this configuration. Accordingly, the Commission finds that 1) the rules for stand-alone IFOM energy storage, including the

[14] WG Report at 9.

[15] WG Report at 11-12.

[16] Joint IOUs Opening Comments, February 14, 2023, at 8.

permitted netting rules, apply equally to hybrid resources under Scenario One; 2) hybrid resources under Scenario One have the right to self-supply their internal power needs, including station service, and avoid retail energy charges.

Regarding the necessity of physical and financial assurances to prevent charging from the grid, parties are not in agreement as to the significance of the risk that resources under Scenario One will engage in charging their storage devices from the CAISO-controlled grid for later resale. Because no party has provided data that shows charging from the grid in hybrid configurations is a common occurrence that warrants adopting a physical or financial assurance, and because existing contract mechanisms limit this behavior to some degree, the Commission is not persuaded that risk of charging from the grid under Scenario One is high and that financial assurances should be adopted.

IEP noted that during the workshops, PG&E cited one case in which a hybrid facility that was supposed to charge 100% from on-site generation experienced a system failure and engaged in substantial grid charging for a period. According to PG&E, this necessitated a lengthy and resource-intensive process to review the billing data and perform manual adjustments. IEP stated that parties did not receive much detail on what transpired, how the billing issues were resolved, and the length of time that the facility violated its commitment to on-site charging.[17] In replies, referring to this example, the Joint IOUs argued that such a failure creates a potential safety risk and noted that PG&E had to spend resources to determine the allocation of charging energy attributable to retail without the assistance of adequate metering. The Joint IOUs noted that the process of determining retail quantities necessitated the review of

[17] IEP Comments, February 14, 2023, at 3-4.

single line diagrams, physical site visit, reviewing significant amounts of billing data and finally making the appropriate billing adjustment is a time-consuming, manual approach.[18]

As demonstrated by the example, there may be times that a hybrid facility engages in grid charging. The Commission is not persuaded that the financial incentives listed by CESA sufficiently eliminate every possible instance of potential charging under Scenario One. For instance, as pointed out by PG&E and acknowledged by CESA and IEP, not every contract contains terms that limit the hybrid resource to on-site charging.[19] Therefore, to assess the magnitude of the problem, the Commission directs the IOUs to monitor hybrid resources for the rare occurrence of inappropriate or unintentional grid charging and file an annual report via Tier 1 Advice Letter by December 31, starting in 2024, for two years. This filing should report, for each hybrid resource interconnected as a hybrid resource with on-site self-supply and charging in the IOUs' territory, the number and magnitude of incidences where they charged from the grid.

The WG Report notes the IOUs' concern about the administrative burden of having to audit and sift through data to determine what is retail, even if grid charging is rare and de minimis.[20] CESA and IEP expressed interest in understanding how the developers can facilitate the audit process by transmitting data one-to-one via their remote terminal units (RTUs) from project owners and operators to the utility and then identifying market status of the resource (*e.g.*, dispatch or idle). The Commission encourages developers and the IOUs to work collaboratively on data sharing for the purposes of accurate

[18] Joint IOUs Reply Comments, February 21, 2023, at 2-3.

[19] Joint IOUs Opening Comments, February 14, 2023, at 9.

[20] WG Report at 13.

reporting. The Commission may take further action based on the collected data and reports filed by the IOUs.

6. Hybrid Resource with Mixed Self-Supply and Grid Charging of Storage Device for Later Resale (Scenario Two)

After considering the WG Report and party comments, the Commission concludes that it is reasonable for storage resources to use output from a nearby generator to self-supply their station power load under Scenario Two. That is, station power rules adopted in D.17-04-039 are applicable to hybrid resources configured as described in Scenario Two. With respect to developing a more granular accounting system to distinguish between Self-Supply and Imported Wholesale Energy Used for Station Power, the Commission directs the IOUs to meet and confer with other interested parties within 60 days of the issuance of this decision about feasibility of developing such a method in collaboration with interested parties and file a Tier 2 Advice Letter within 90 days of the issuance of this decision, detailing a development and implementation plan for a Path 2 methodology and the cost associated with it. The Commission will then determine in a Resolution whether the IOUs should proceed with the proposed plan or Path 1 should be maintained.

6.1. Description of Scenario Two

As presented in WG Report, similar to Scenario One, Scenario Two also consists of a storage device and a generating device with a common Resource ID and CAISO settlement meter.[21] The difference is that under Scenario Two, the storage device can charge from the CAISO-controlled grid, which raises two issues. First, energy imported from the grid must be differentiated between retail

[21] The WG Report at 14 notes that the simplified diagram would be the same as in Scenario One.

energy serving Station Power load and energy used for wholesale charging (for later resale). Second, because the electricity in the energy storage device may be a combination of energy generated on-site and energy imported from the grid, it is unclear whether the energy storage system can cover Station Power load when the resource is otherwise idle. This is not a concern in Scenario One, because any electricity in the battery comes from the on-site system.[22]

The key issue under Scenario Two is that a hybrid resource cannot purchase wholesale energy from the grid to use it later to meet station power load. The WG Report states that "when a Hybrid Mixed Charging facility is idle (*i.e.*, the generator is not producing and the energy storage system is not responding to a dispatch instruction), determining whether Station Power load served by stored electricity should be permitted is complex because the stored energy may be from any combination of self-supplied electricity, which may be used for Station Power, and grid-delivered electricity, which may not if it was imported as part of a Wholesale Charging transaction. Theoretically, these facilities could self-supply Station Power from stored energy using an accounting mechanism to track the share of self-supplied energy in the batteries during a billing cycle."[23]

Due to complexity of this configuration, there are two approaches proposed by CESA to address how station power rules could apply to hybrid resources. The first approach is treating these hybrid resources like stand-alone energy storage (Path 1). Path 1 would apply the netting rules established in D.17-04-039 to energy storage components of hybrid resources that can charge

[22] WG Report at 14-15.

[23] WG Report at 15.

from the grid and serve the resource's station load. Whenever a hybrid resource exports to the grid from on-site generation, station power load would be acknowledged as self-supplied and not be billed at retail. The storage device would not be allowed to cover its Station Power load when the energy storage system is idle. In other words, no self-supply of Station Power loads would be allowed even if a significant portion of the charged energy came from the on-site generation in previous intervals. The WG Report notes that, as is the case for stand-alone storage, Path 1 would require developing specific definitions for what constitutes a "dispatch instruction" and what constitutes a "response to a dispatch instruction."[24]

The second approach requires developing an Accounting System to distinguish between Self-Supply and Imported Wholesale Energy Used for Station Power (Path 2). Where Path 1 would not attempt to distinguish between self-supplied energy and energy charged at wholesale, Path 2 would attempt to develop an accounting mechanism to determine what portion of the stored energy is self-supplied versus grid charged. Then, if the accounting mechanism determines that 75% of the energy is self-supplied while 25% is from the grid, then for any energy discharged to cover Station Power during idle periods, 75% would not be billed at retail and 25% would be billed at retail.[25]

CESA recommends Path 1 to provide immediate or near-term clarity until Path 2 approaches are further developed.[26]

[24] WG Report at 17.

[25] WG Report at 15-16.

[26] WG Report at 16.

6.2. Party Positions on Scenario Two

CESA, IEP, and the IOUs agree that Path 1 could be adopted without being burdensome with the appropriate supplemental metering to support the administrative determination of energy flow for the Hybrid Resource.

The IOUs support this approach because it is based on an approach already in use and with which they are familiar. Although it involves some estimates and uses statistical analysis, the interests of all parties are balanced, such that Mixed Charging Hybrid Resources pay a fair share of the costs of the station power that they consume at retail." [27] The IOUs consider Path 1 to be an administratively acceptable and relatively efficient solution.

CESA and IEP recommend the Commission adopt Path 1 in the near-term, then order the IOUs to meet and confer with interested parties within 30 days of issuance of the final decision, then file a Tier 2 Advice Letter within 120 days of issuance of the final decision with a plan to implement Path 2.

Considering Path 2 to be a complex proposal, the IOUs assert that the resources to implement Path 2 may be substantial and that transmission customers should not have to bear the costs of developing an automated solution.[28] The IOUs oppose Path 2 for several reasons. First, Path 2 would entail implementation challenges as Path 2 would involve developing an accounting construct (*e.g.*, first-in last-out, or percentage allocation) or some other mechanism (*e.g.*, metering postprocessing) to more granularly attribute stored energy as either self-supplied (no charge) or grid charged. There is also ambiguity as to whether these approaches can indeed be implemented, whether

[27] Joint IOUs Opening Comments, February 14, 2023, at 14-15.

[28] WG Report at 17.

CAISO is willing to implement it, and whether any approach that is not automated could be problematic for FERC's Electric Quarterly Report purposes.[29]

The IOUs contend that if the Commission wishes that further investigation of Path 2 (*i.e.*, allowing some amount of self-supply for hybrid resources that also can charge from the grid) should be pursued, it should seek assurance of the CAISO's cooperation and funding of the entire further analysis by those who seek to implement the approach.[30]

CESA believes that CAISO involvement is helpful and important but not imperative to develop Path 2 proposals.

6.3. Discussion of Scenario Two

After considering the Working Group Report and party comments, the Commission concludes that the near-term proposal, Path 1, is reasonable and should be adopted. That is, the netting rules established in D.17-04-039 should apply to energy storage component of hybrid resources that can charge from the grid and serve the resource's station loads. This approach is not burdensome, is based on an approach that is already in use, and equitable as hybrid resources pay a fair share of the costs of the station power that they consume at retail.

With respect to Path 2, the Commission recognizes the need to develop a more granular accounting system; however, if developing such a methodology is costly and will only impact a very small subset of paired storage resources, then the Commission needs to determine whether it would be equitable for ratepayers to bear the full cost of developing the methodology. The Commission does not have the record to make that assessment. The WG Report notes that as of

[29] Joint IOUs Opening Comments, February 14, 2021, at 15.

[30] Joint IOUs Reply Comments, February 21, 2023, at 5.

January 1, 2023, around 1,000 megawatt (MW) of 5,200 MW of aggregate energy storage capacity on the grid operate as a hybrid resource.[31] According to the IOUs, mixed charging hybrid resources may be a very small subset of paired storage resources.[32]

Therefore, the Commission directs the IOUs to meet and confer with interested parties within 60 days of the issuance of this decision about feasibility of developing such a method in collaboration with interested parties and file a Tier 2 Advice Letter within 90 days of the issuance of this decision, detailing a development and implementation plan for a Path 2 methodology and the cost associated with it. Any updated data on the number of storage resources deployed in hybrid configuration, including the project's size and charging profile, *i.e.*, Scenario 1 vs Scenario 2, should also be provided. The Commission will then determine in a Resolution whether the IOUs should proceed with the proposed plan or whether Path 1 should be maintained.

7. Co-Located Resources (Scenario Three)

The Commission concludes that due to the risk of cost-shifting by expanding netting, co-located resources configured as Scenario Three should not be permitted to self-supply.

7.1. Description of Scenario Three

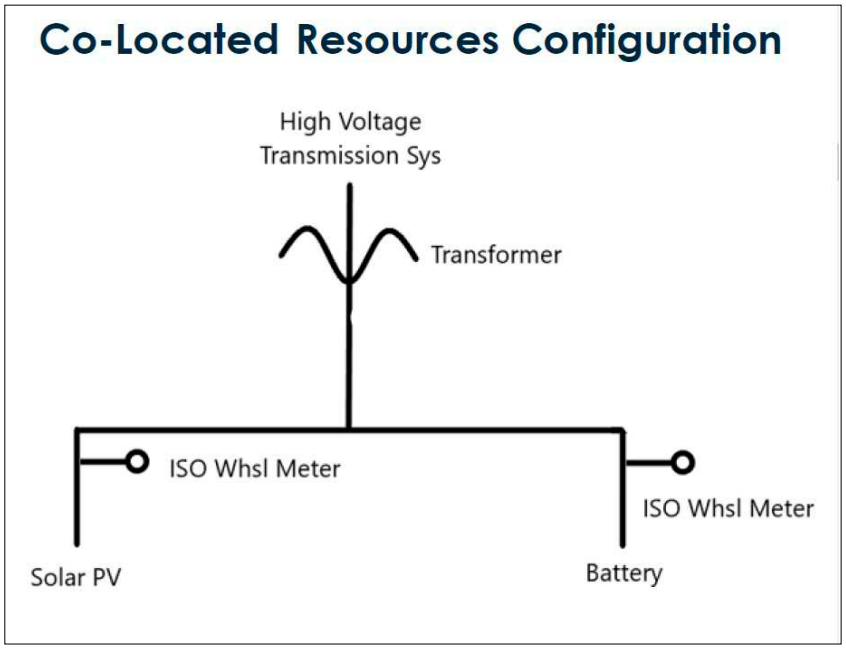
As presented in WG Report, Scenario Three consists of a storage device and a generating device, where each resource has a separate Resource ID and CAISO settlement meter, and each co-located resource is viewed independently for CAISO wholesale market participation. The co-located resources are "behind" the same point of interconnection and are sometimes, but not required

[31] WG Report at 26.

[32] Joint IOUs Opening Comments, February 14, 2021, at 16.

to be, on the same or adjacent real property. The storage device and a generating device may or may not be owned by the same legal entity.[33]

Figure 2. Co-Located Resources[34]



7.2. Party Positions on Scenario Three

Parties disagree with respect to whether netting to serve station power load is and should be permitted between two co-located resources under Scenario Three.

First, the IOUs argue that having a co-located resource provide station power to a co-located resource would constitute a retail sale not self-supply if the co-located resources are owned by different legal entities. Second, the IOUs note that the CAISO Tariff has previously been interpreted to preclude the netting of Station Power load of one Co-Located Resource against the output of another co-

[33] WG Report at 17-18.

[34] WG Report at 18.

located resource. The IOUs maintain that the CAISO tariff and Commission tariffs would be at odds and in conflict if the Commission permits netting. The IOUs also express concern about the cost-shifting implications of permitting netting to serve station power load between two co-located resources.[35]

In support of allowing "self-supply" between co-located resources, CESA argues that from a physics and electrical operations perspective, hybrid and co-located resources are the same, and should therefore be treated similarly. CESA maintains that the CAISO tariff is flexible enough to allow for netting between co-located resources, and that the CAISO would conform its tariff to support any Station Power determination made by the CPUC.

IEP agrees with the IOUs that when multiple units located behind the same Point of Interconnection, regardless of technology, have separate CAISO Resource IDs, they are compensated and billed as individual units, and netting from one resource to another is not allowed. It is IEP's understanding that this limitation currently applies to multiple generators at one facility.[36] However, IEP comments that, if CAISO's settlement system can be modified to account for self-consumption across Resource IDs and avoid double compensation, IEP would support reconsideration of the Station Power rules to allow netting for co-located resources of all types, regardless of whether one or more units consist of energy storage. IEP adds that such an arrangement would incentivize facilities to maintain the visibility and flexibility afforded by separate metering and dispatch capability while benefitting from the self-supply opportunities afforded to single Resource ID hybrid facilities.[37]

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[35] Joint IOUs Opening Comments at 18-22.

[36] WG Report at 21.

[37] WG Report at 25.

7.3. Discussion of Scenario Three

After considering the WG Report and party comments, the Commission determines that netting to serve station power load should not be permitted between two co-located resources. The differences between hybrid and co-located resources are significant enough to require separate procedures for differentiating retail and wholesale charges, and the risk of cost shifting due to expanded netting warrants a separate treatment.

First, hybrid and co-located resources are configurationally different from each other. Co-located resources have CAISO meters in front of each individual resource, while hybrid resources share a single CAISO meter. This difference means that co-located resources are not electrically connected at the same point, which would hold implications for the definition of permitted netting in the CAISO tariff. As the IOUs note, CAISO Tariff Section 10.1.3.1 describes Permitted Netting in the context of Station Power as follows:

> CAISO Metered Entities and Scheduling Coordinators may, when providing Meter Data to the CAISO, net kWh or MWh values for output and Station Power electrically connected at the same point, provided that the resource is on-line and producing sufficient output to serve all of its Station Power[.]

As pointed out by the IOUs, co-located resources have individual CAISO settlement meters and Resource IDs, and they are connected at two distinctly separate electrical locations. That is, the CAISO is measuring the inflow or outflow of energy to/from two different resources. This limitation has also been recognized by IEP.

Second, permitting netting to serve station power load between two co-located resources will lead to cost-shifting to other retail customers. If permitted, co-located resources could serve one another's station power load in a manner that could considerably minimize any retail charges, which is how fixed costs for

transmission, distribution, and public benefit programs are recovered. The IOUs note that "Netting across resources with separate resource IDs allows generator owners participating in CAISO markets to avoid retail power consumption, so that there is less retail load across which to spread fixed costs, adversely impacting affordability of retail power."

Finally, no party demonstrated that the status quo for station power treatment at co-located resources is a major cost or a procedural impediment to project development. In the case that it is an impediment, it is the Commission's anticipation that with the clarity this decision brings to applicability of station power rules, the developers can make an informed decision based on economics as well as other factors.

8. Petition to Modify D.17-04-039

On March 19, 2021, the California Energy Storage Alliance (CESA or Petitioner) filed a petition to modify D.17-04-039 (Petition), seeking clarifications on the application of station power rules and treatment of hybrid and co-located resources. Responses to the Petition were filed on April 19, 2021, by the following parties: American Clean Power – California (ACP – California), California Independent System Operator Corporation (CAISO), Independent Energy Producers Association (IEP), Pacific Gas and Electric Company (PG&E), Public Advocates Office, San Diego Gas & Electric Company (SDG&E), Solar Energy Industries Association (SEIA), and Southern California Edison Company (SCE). On April 29, 2021, CESA filed a reply to the responses.

Before considering the merits of any arguments made for modification of a prior decision, the Commission must determine that a petition for modification complies with the requirements of Rule 16.4 of the Commission's Rules of Practice and Procedure (Rules), including the requirement that a petition for

modification must be filed "within one year of the effective date of the decision proposed to be modified."(Rule 16.4(d)).

"If more than one year has elapsed, the petition must also explain why the petition could not have been presented within one year of the date of the decision." (Rule 16.4(d).) Since the Petition was filed more than a year after the effective date of D.17-04-039, it must explain why it "could not have been presented" within the one-year timeframe.

First, CESA asserts that at the time of issuance of D.17-04-039, the volume of hybrid and co-located resource procurement was much smaller and adds that clarifications regarding the treatment of station power for hybrid and co-located resources was not "exigent" to support the success of the Energy Storage Framework. CESA lists technology costs, federal tax incentives, policy and economic drivers to develop more solar and wind resources with storage components as factors supporting their request. (Petition at 12 and 13) Second, CESA claims that there are disagreements between developers and investor-owned utilities on the interpretation of the existing station power and self-supply rules as it applies to hybrid and co-located resources. (Petition at 13 and 14).

We find that CESA provides sufficient justification for filing this petition more than one year after the issuance of D.17-04-039. However, because this decision clarifies the application of station power rules and treatment of hybrid and co-located resources, the Petition is denied as moot.

9. Outstanding Procedural Matters

The Commission affirms all rulings made by the assigned Commissioner and assigned Administrative Law Judge. All motions not previously ruled on are deemed denied.

10. Summary of Public Comment

Rule 1.18 allows any member of the public to submit written comment in any Commission proceeding using the "Public Comment" tab of the online Docket Card for that proceeding on the Commission's website. Rule 1.18(b) requires that relevant written comment submitted in a proceeding be summarized in the final decision issued in that proceeding.

One member of the public submitted comments on the importance of electric storage resources. There are no public comments on the proceeding Docket Card regarding the station power rules.

11. Comments on Proposed Decision

The proposed decision of Commissioner Alice Reynolds in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on September 19, 2023, by ACP – California, CAISO, CESA, Green Power Institute, IEP, and Joint IOUs. Reply comments were filed on September 25, 2023, by CESA, Green Power Institute, and Joint IOUs.

All comments and reply comments have been carefully reviewed. In response to comments, the proposed decision is modified to clarify the following:

1) The reporting requirement in Ordering Paragraph 1 applies to any hybrid resource that is directly connected to transmission or distribution facilities owned by the host utility.
2) Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, apply to the individual storage resource in a set of co-located resources.

12. Assignment of Proceeding

Alice Reynolds is the assigned Commissioner and Nilgun Atamturk is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. Proposed definitions for hybrid resource, co-located resource, station power, and permitted netting, listed in WG Report, are in alignment with CAISO tariffs and the definitions adopted in D.17-04-039 and D.20-06-031.

2. WG Report identifies and discusses three scenarios: Hybrid Resource with Only On-Site Self-Supply for Charging of Storage Device for Later Resale (Hybrid On-Site Self-Supply & Charging); Hybrid Resource with Mixed Self-Supply and Grid Charging of Storage Device for Later Resale (Hybrid Mixed Charging); and Co-Located Resources.

3. Hybrid On-Site Self-Supply and Charging is a configuration in which the primary IOU retail meter is electrically located at the same place as the CAISO settlement meter and effectively measures the same flows.

4. Parties disagree as to the significance of the risk that resources under Scenario One will engage in charging their storage devices for later resale from the CAISO-controlled grid.

5. No party provided data that shows charging from the grid in hybrid configurations is a common occurrence that warrants adopting a physical or financial assurance.

6. The financial incentives listed by CESA may not sufficiently eliminate every possible instance of potential grid charging under Scenario One.

7. Hybrid Resource with Mixed Self-Supply and Grid Charging of Storage Device for Later Resale is a complex configuration as the storage device can charge from the CAISO-controlled grid.

8. For Hybrid Resource with Mixed Self-Supply and Grid Charging of Storage Device for Later Resale, energy imported from the grid must be differentiated between retail energy serving station power load and energy used for wholesale charging (for later resale).

9. Due to complexity of Scenario Two, two approaches, Path 1 and Path 2 are proposed.

10. Path 1 applies the netting rules established in D.17-04-039 to energy storage components of hybrid resources that can charge from the grid and serve the resource's station load.

11. Under Path 1, whenever a hybrid resource exports to the grid from on-site generation, station power load would be acknowledged as self-supplied and not be billed at retail. The storage device would not be allowed to cover its station power load when the energy storage system is idle.

12. Parties find Path 1 to be an administratively acceptable and relatively efficient solution in the near-term.

13. There is a need to develop a more granular accounting system to distinguish between Self-Supply and Imported Wholesale Energy Used for Station Power. Developing such a methodology may be costly and may only impact a very small subset of paired storage resources.

14. Hybrid and co-located resources are configurationally different from each other. Co-located resources have CAISO meters in front of each individual resource, while hybrid resources share a single CAISO meter.

15. Permitting netting to serve station power load between two co-located resources will lead to cost-shifting to other retail customers.

16. On March 19, 2021, CESA filed a petition to modify D.17-04-039, seeking clarifications on the application of station power rules and treatment of hybrid and co-located resources.

17. CESA provided sufficient justification for filing this petition more than one year after the issuance of D.17-04-039.

Conclusions of Law

1. Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, should apply to hybrid resources with only on-site self-supply for charging storage device for later resale.

2. The Commission should not require physical or financial assurances to prevent inappropriate or unintentional grid charging under Scenario One.

3. The Commission should direct the IOUs to monitor hybrid resources under Scenario One for inappropriate or unintentional grid charging and file an annual report via Tier 1 Advice Letter by the last business day of December, starting in 2024, for two years.

4. Path 1 is reasonable in the near-term and should be adopted. That is, the netting rules established in D.17-04-039 should apply to energy storage component of hybrid resources that can charge from the grid and serve the resource's station loads.

5. The IOUs should meet and confer with other parties within 60 days of the issuance of this decision about feasibility of developing a method for Path 2 in collaboration with interested parties and file a Tier 2 Advice Letter within 90 days of the issuance of this decision, detailing a development and implementation plan for a Path 2 method and the cost associated with it.

6. Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, should not apply to co-located resource

configuration (Scenario Three). Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, should apply to the individual storage resource in a set of co-located resources.

7. CESA's petition to modify Decision 17-04-039, filed on March 19, 2021, should be denied.

O R D E R

IT IS ORDERED that:

1. Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company must monitor hybrid resources under Scenario One for inappropriate or unintentional grid charging and each submit an annual report via Tier 1 Advice Letter by the last business day of December 31, starting in 2024, for two years. The report must provide, for each hybrid resource directly interconnected as a hybrid resource to the host investor-owned utility's transmission or distribution system with on-site self-supply, the number and magnitude of incidences where the resource charged from the grid.

2. No later than 60 days after the issuance of this decision, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company must jointly meet and confer with other parties about the feasibility of developing a more granular accounting system to distinguish between self-supply and imported wholesale energy used for station power in collaboration with interested parties.

3. Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company must jointly submit a Tier 2 Advice Letter within 90 days of the issuance of this decision, detailing a development and implementation plan for a granular accounting system to distinguish between self-supply and imported wholesale energy used for station power and

the cost associated with it. Any updated data on the number of storage resources deployed in hybrid configuration, including the projects' size and charging profile (*i.e.*, Scenario 1 vs Scenario 2) must also be provided.

4. No later than 60 days after the issuance date of this decision, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company must each file a Tier 2 Advice Letter to establish or revise existing energy storage station power tariffs to confirm that:

   (a) Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, must apply to hybrid resources with only on-site self-supply for charging storage device for later resale.

   (b) Station power rules for stand-alone in-front-of-the-meter energy storage, including the permitted netting rules, must apply to hybrid resources with mixed self-supply and grid charging of storage device for later resale until a more granular accounting systems is developed.

5. The California Energy Storage Alliance's petition to modify Decision 17-04-039, filed on March 19, 2021, is denied.

6. Rulemaking 15-03-011 is closed.

This order is effective today.

Dated _____, at Stockton, California.